Birmingham University Field Archaeology Unit

Project No. 372

November 1995

An archaeological evaluation at the Winfield Medical Centre, Tewkesbury Road, Gloucester, November 1995

by

Birmingham University Field Archaeology Unit

For further information please contact:
Simon Buteux, Iain Ferris or Peter Leach (Directors)
Birmingham University Field Archaeology Unit
The University of Birmingham
Edgbaston
Birmingham B15 2TT
Tel: 0121 414 5513
Fax: 0121 414 5516
E-Mail: BUFAU@bham.ac.uk

An archaeological evaluation at the Winfield Medical Centre, Tewkesbury Road, Gloucester

Birmingham University Field Archaeology Unit

SUMMARY

An archaeological evaluation was carried out by Birmingham University Field Archaeology Unit at the Winfield Medical Centre, Gloucester in November 1995. The evaluation followed a proposal to build a nursing home together with an extension to the car park in the grounds of the existing building. A number of artefacts including Roman coins and brooches were recovered from the site during the construction of the existing hospital in 1991. The evaluation took the form of a magnetometer survey and a series of five trial trenches. Nothing of archaeological significance was identified. The only finds that were recovered were of 19th- and 20th-century date.

INTRODUCTION

The following report describes the results of an archaeological evaluation at the Winfield Medical Centre, Tewkesbury Road, Gloucester (Fig 1, NGR SO 8343 2022). The work was undertaken by Birmingham University Field Archaeology Unit in November 1995. It was carried out in accordance with a brief prepared by Gloucester City Council in response to a proposal to build a nursing home and car park in the grounds of the existing hospital. Arrangements have been made for the deposition of the archive and finds at the Gloucester City Museum. The work was undertaken on behalf of FIRN Architects Limited.

The site lies on the west side of the Tewkesbury Road approximately 1.5 km to the north of Gloucester (Fig 2). A number of artefacts including Roman coins and brooches were recovered from the site during the construction of the existing hospital in 1991.

OBJECTIVE

The objective of the evaluation was to establish the presence/absence, character, extent, state of preservation and date of any archaeological deposits within the area affected by the proposed development. The evidence was to form the basis of any proposals for appropriate mitigation measures that might seek to limit the damage to significant archaeological deposits, and aimed to define any research priorities that may be relevant should further investigation be required.

METHOD

Stage 1 - Geophysical Survey

A magnetometer survey (FM 36) was carried out within the areas to be affected by the development (Fig 3: Areas A & B). All grid sizes for the survey were 20m x 20m. Readings were taken at 0.5m centres in traverses 1m apart (ie 800 readings per grid). The precise area covered by the survey was dictated by the presence of obstructions to survey, including existing carparks and ferrous disturbances.

The objective of the geophysical survey was to isolate anomalies of possible archaeological origin and thus to assist in the precise locations of trial trenches.

Stage 2 - Trial Trenching

The second stage of the evaluation comprised the excavation of 5 trial trenches, between 13m and 21m long and 2m wide, covering an area of just over 2% of the area to be developed. These trial trenches were located in the area of the proposed car park in Area A and within the footprint of the proposed new building in Area B.

The topsoil/ploughsoil horizons within each trench were removed by machine (JCB) using a toothless ditching bucket. The underlying natural sands and gravels were cleaned in order to define any possible archaeological features and deposits. All features that were defined were sample excavated in order to establish their extent, condition, nature, character, quality and (if possible) date.

The stratigraphy of all trial trenches was recorded even where no archaeological deposits were identified. Archaeological recording was undertaken using a continuous numbered context system and BUFAU *pro-forma* record cards. All archaeological features and deposits were photographed and a full drawn record at appropriate scales was maintained (plans at 1:20 and 1:50 and sections at 1:10 and 1:20).

RESULTS (Figs 3 and 4)

Stage 1 - Geophysical Survey

The following is a summary of the results of the geophysical survey. A more detailed description can be found in the Appendix.

Area A - This area was partly obscured by the presence of concentrated and intermittent ferrous material. Where the metal caused least distortion there was no clear evidence for archaeological anomalies.

Area B - This area was also obscured by the presence of concentrated and dispersed ferrous material. There was no indication of archaeological anomalies.

Stage 2 - Trial Trenching

Trench 1 (21m x 2m) - orientated north-south to the west of the existing car park in Area B. The yellow-brown sand natural sub-soil (1004) was recorded at a depth of 1.24m. A sondage, 2m x 1m, was excavated through this sand at the northern end of the trench. It proved to be 0.6m thick and overlay yellow-brown sands and gravels (1005). The sand was overlain by brown sandy silt (1003) up to 0.3m thick. The surface of this deposit was cleaned. The only feature that was recorded was a large shallow disturbed area, 0.07m deep, in the central area of the trench (F1). The fill was slightly darker in colour than the underlying sandy silt and contained flecks of charcoal. It is likely that this has been caused by former vegetation. It was sealed by a similar sandy silt, up to 0.3m thick (1002), containing flecks of charcoal and fragments of 19th- and 20th-century pottery and brick. The upper deposits consisted of dark brown-black topsoil with frequent fragments of 19th and 20th century pottery, brick, tile and metalwork.

Trench 2 (13.4m x 2m) - orientated east-west to the west of the existing car park in Area B. The natural yellow-brown sand was encountered at a depth of 0.8m. Only one small irregular feature (F2) was cut through this deposit at the western end of the trench. This was 0.43m wide, 0.2m deep and filled with silty sand with flecks of charcoal. No finds were recovered. It seems likely that this feature has been created by root disturbance. The natural sand was overlain by 0.3m of brown silty sand (2002), the upper part of which contained flecks of charcoal and fragments of 19th- and 20th- century pottery and brick. The upper deposits comprised modern topsoils (2000 and 2001).

Trench 3 (16m x 2m) - orientated east-west in the southern part of Area A. This was the shallowest of the trenches with the natural sands and gravels (3002) encountered at a depth of 0.4m. In the western half of the trench, the natural sand was overlain by up to 0.3m of brown silty sand (3001) and up to 0.12m of topsoil (3000). The topsoil in the eastern half of the trench (3006) was deeper, up to 0.5m and filled what appeared to be possible bedding trenches cut through the natural sands and the silty sand.

Trench 4 (15m x 2m) - orientated northwest-southeast in the northern part of Area A. The natural sand was recorded at a depth of 0.84m. Only a single, irregular shaped feature (F3), in the central area of the trench, was recorded cutting this sand. It was approximately 1m wide and 0.2m deep and filled with silty sand with flecks of charcoal. It was overlain by 0.3m of brown silty sand (4002) and 0.6m of topsoil (4000 and 4001). Fragments of 19th- and 20th-century pottery and brick were recovered these deposits.

Trench 5 (15m x 2m) - orientated north-south to the east of the existing car park in Area B. The natural sands and gravels were exposed at a depth of 1.2m in the southern end of the trench. The overlying natural sand (5003) was 0.1m thick. No features were recorded cutting this deposit. The sand was overlain by up to 0.5m of brown sandy silt (5002) and up to 0.6m of dark brown-black topsoil (5000 and 5001). The topsoil was slightly deeper in the central area of the trench where it appeared to fill a shallow scoop in the underlying silty sand. This may relate to former tree root disturbance or a former garden feature. Fragments of 19th- and 20th-century pottery and brick were recovered the various deposits overlying the natural sand.

CONCLUSIONS

The geophysical survey did not reveal any anomalies indicative of possible archaeological features. Although ferrous material inhibited the survey, this negative result was borne out by the results of the trial trenches.

There was no indication of any pre-19th century features or finds in any of the trial trenches. It seems probable that the few small features that were recorded cutting the natural sands and gravels were created by former vegetation. The variation in the depth of the topsoil in several of the trenches (in particular Trenches 3 and 5) suggest bedding trenches relating to the market gardening that took place in the area before the construction of the hospital.

The former presence of market gardening would also explain the surprising depth of topsoil encountered across the site. It seems likely that much of this material was brought into the site from elsewhere. This might explain the presence of the apparently isolated group of Roman finds found during the construction of the hospital. An alternative explanation might be that the group of finds formed part of a hoard, disturbed and dispersed during the construction works.

ACKNOWLEDGEMENTS

The evaluation was carried out by Gwilym Hughes, Laurence Jones, Ed Newton and Derek Moscrop. The geophysical survey was carried out by Richard Tabor and Laurence Jones. The report was prepared by Gwilym Hughes and edited by Simon Buteux. The drawings were prepared by Nigel Dodds.

Thanks are due to Richard Sermon (Gloucester City Museum) and the staff of the Winfield Medical Centre for their advice and assistance.

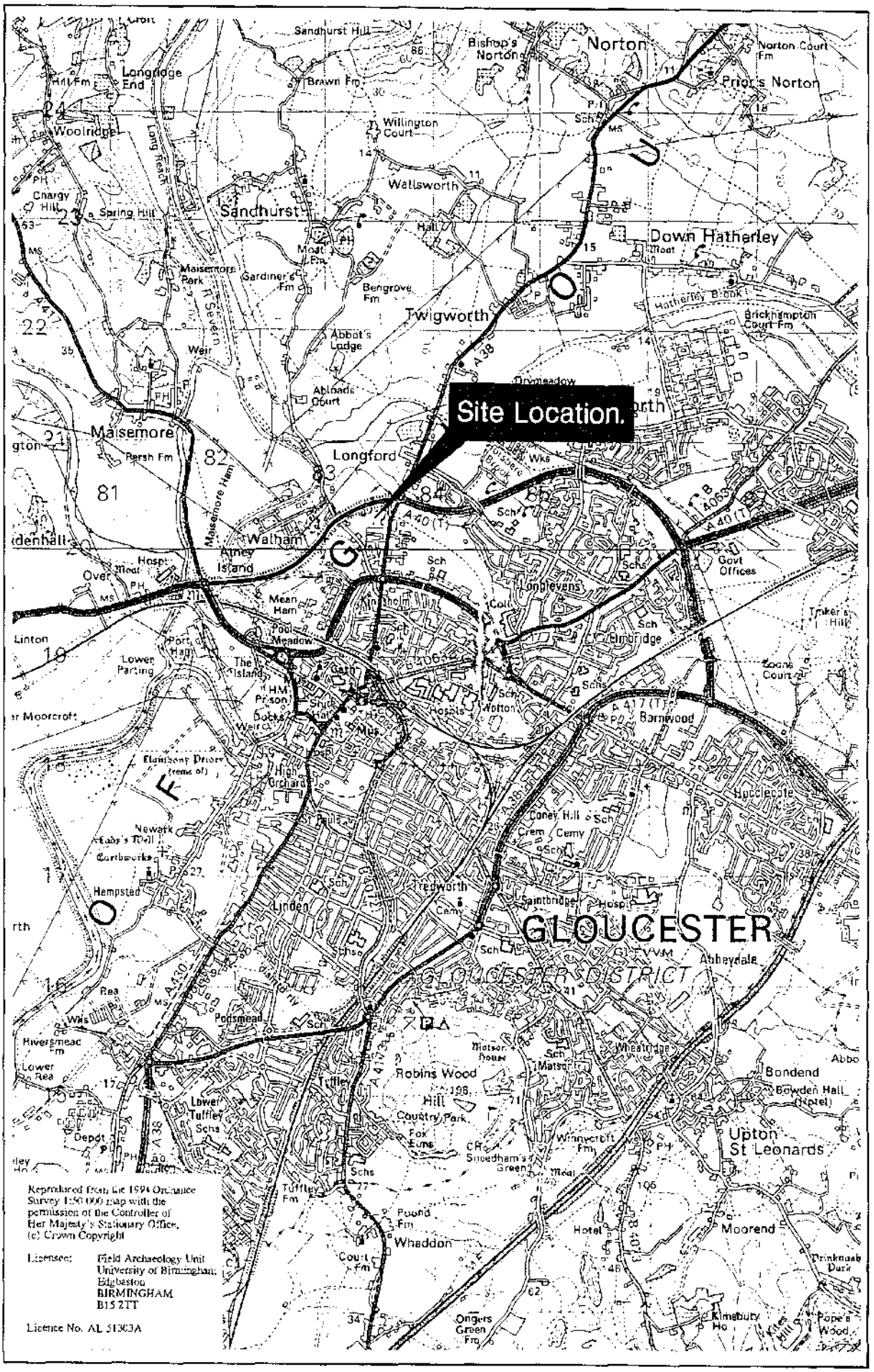
Site Location.
GLOUCESTER
GLOUCESTER DISTRICT
Norton
Prior's Norton
Sandhurst
Down Hatherley
Twigworth
Longford
Maisemore
Walham
Linton
Hempsted
Linden
Robins Wood Hill
Upton St Leonards
Moorend
Whaddon
Reproduced from the 1994 Ordnance Survey 1:50 000 map with the permission of the Controller of Her Majesty's Stationary Office. (c) Crown Copyright
Licensee: Field Archaeology Unit University of Birmingham Edgbaston BIRMINGHAM B15 2TT
Licence No. AL 51303A

Fig.1

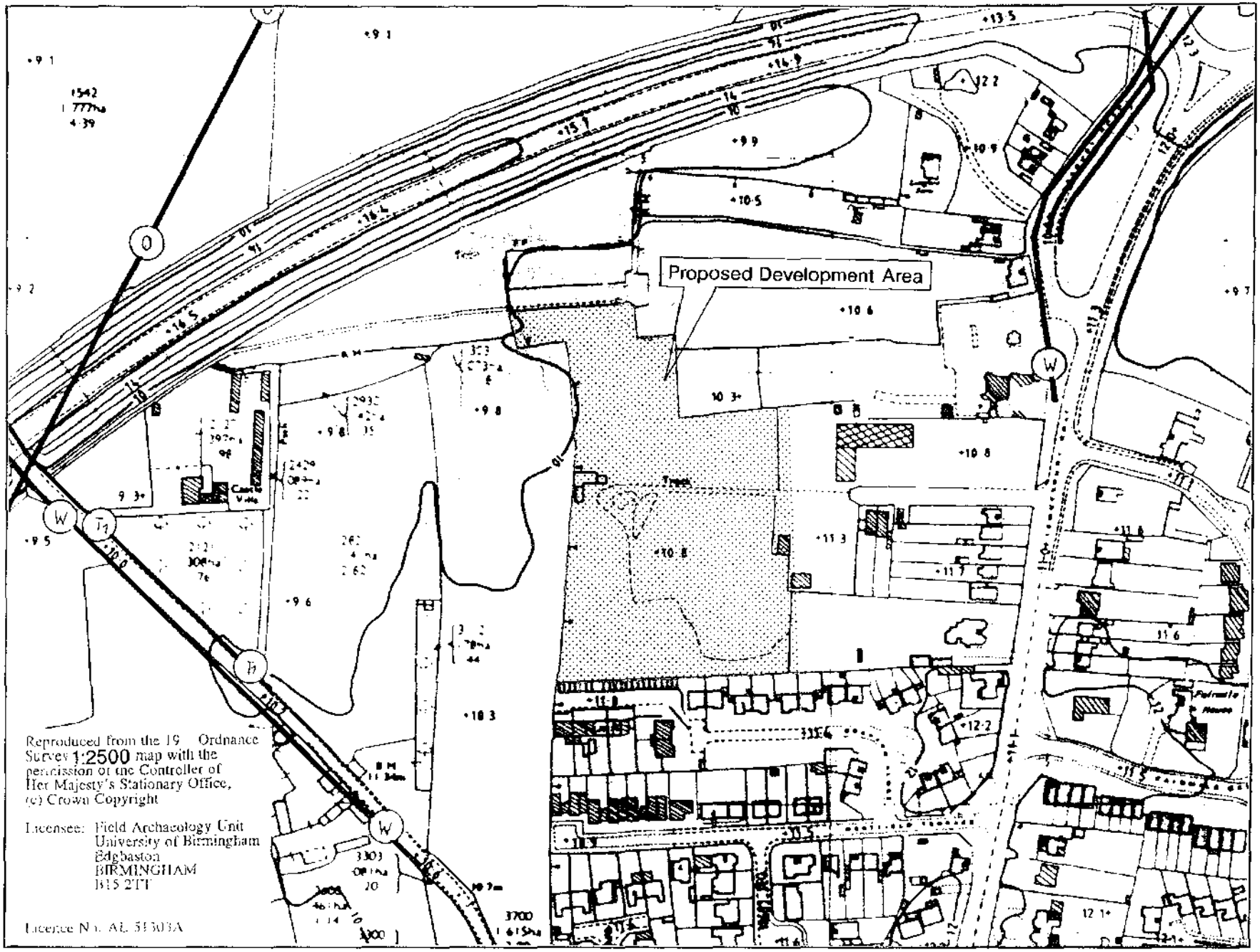
Proposed Development Area
Reproduced from the 19 Ordnance Survey 1:2500 map with the permission of the Controller of Her Majesty's Stationary Office, (c) Crown Copyright
Licensee: Field Archaeology Unit
University of Birmingham
Edgbaston
BIRMINGHAM
B15 2TT
Licence No. AL 51303A

Fig.2

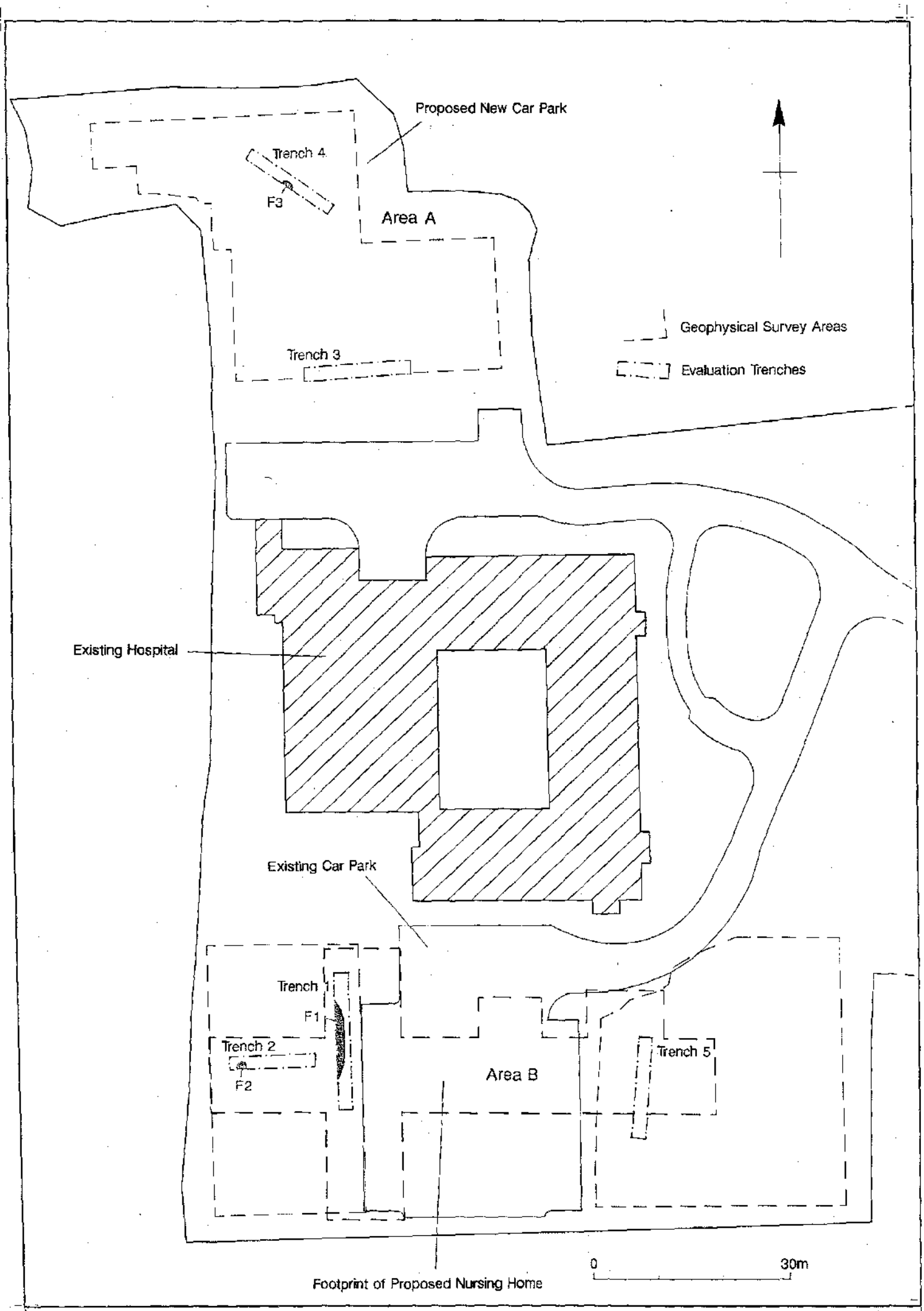
Proposed New Car Park
Trench 4
F3
Area A
Trench 3
Geophysical Survey Areas
Evaluation Trenches
Existing Hospital
Existing Car Park
Trench 1
F1
Trench 2
F2
Area B
Trench 5
0
30m
Footprint of Proposed Nursing Home

Fig.3

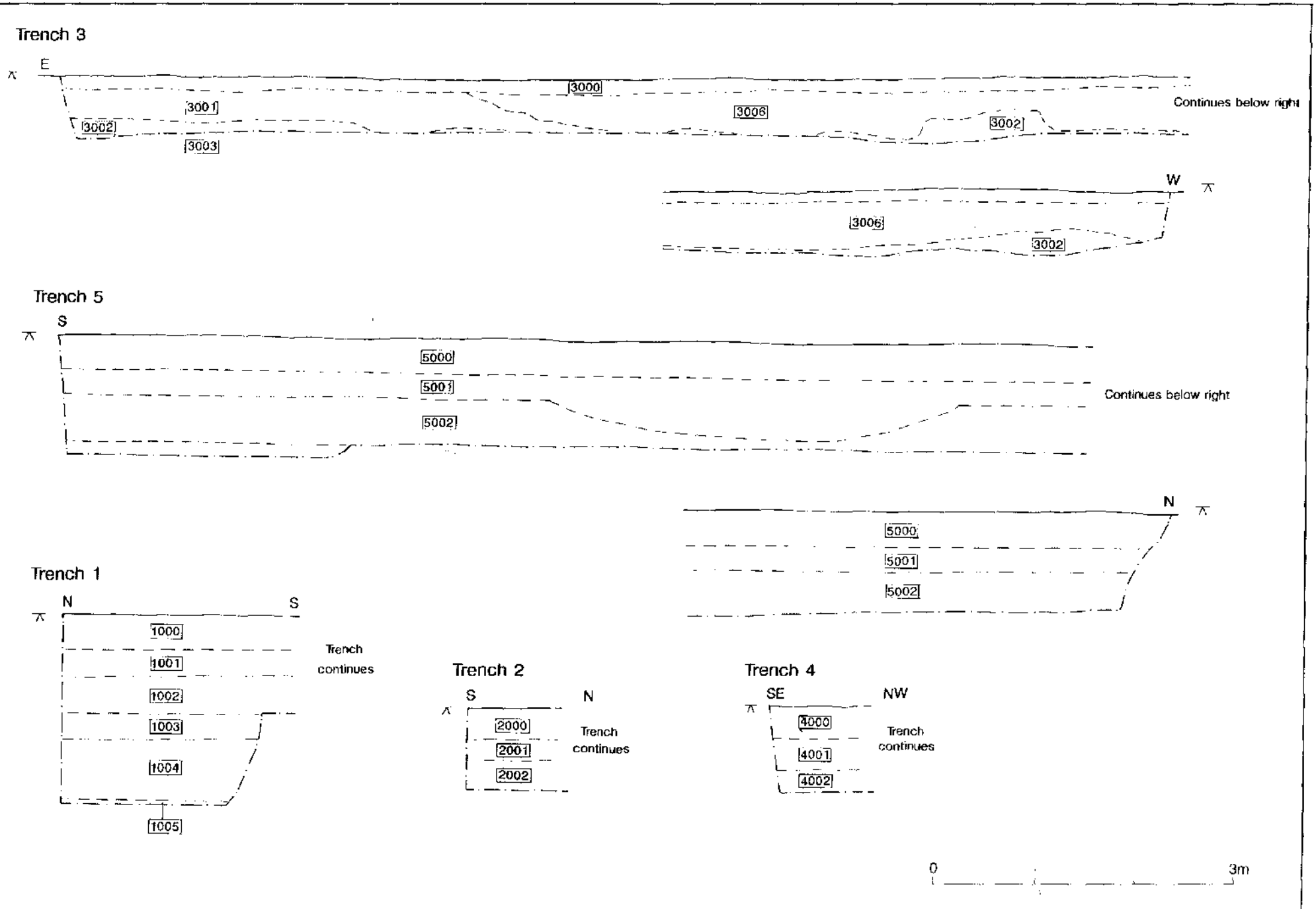
Trench 3
E
3000
3001
3002
3003
3006
3002
Continues below right
W
3006
3002
Trench 5
S
5000
5001
5002
Continues below right
N
5000
5001
5002
Trench 1
N
S
1000
1001
1002
1003
1004
1005
Trench continues
Trench 2
S
N
2000
2001
2002
Trench continues
Trench 4
SE
NW
4000
4001
4002
Trench continues
0
3m

Fig.4

APPENDIX

Geophysical Survey

by

Richard Tabor

Strategy

The two relatively small areas to be affected by the development enabled a full gradiometer survey.

Both areas were divided into 20 x 20m grids, with traverses at every metre in a north-south direction. Sampling was at every half metre, giving 800 recorded readings from each complete grid. This sampling frequency would normally ensure the location of ditches and walls providing the site geology and depth of soil is suitable.

Instrumentation

Fluxgate gradiometer - Geoscan FM36

The Geoscan FM36 comprises two fluxgate sensors, one set at 500mm above the other. The instrument is designed to be carried at a consistent height so that the distance between the lower sensor and the soil does not exceed 300mm above the ground.

Variations in the magnetic field between the sensors are measured in nanoTesla at each sampling point within a grid. The depth range is approximately one metre.

Data are logged automatically, then transferred to a floppy disc.

Software - Geoscan 2.01

Geoplot 2.01 facilitates the transfer of data to floppy disc from a data logger, or by manual entry.

It is designed to present data in four graphical forms: dot density, shade, pattern and X-Y plots. In general dot density is the preferred format, accompanied by X-Y plots.

Printer - Hewlett Packard Laser Jet 51

The printer is capable of 600 x 600dpi resolution but is restricted by Geoplot 2.01's drive capacity to 300 x 300dpi.

Summary of results

Area A was partially obscured by the presence of concentrated and intermittent ferrous material. Where the metal caused least distortion there was no clear evidence for archaeological anomalies.

Area B was obscured also by the presence of concentrated and dispersed ferrous material. There was no indication of archaeological anomalies.

Area A

Three complete grids and one partial were surveyed (see main report Fig 3). The partial grid to the northwest was almost wholly obscured by a very strong ferrous anomaly and its shadow.

The southern and southeastern grids were 70-80% obscured, almost certainly due to the presence of a row of parked cars some 4m beyond the grid.

The remaining, northern grid was less badly affected, but revealed no convincing anomalies.

To reduce the effects of ferrous material negative readings of more than 8nT (nanoTesla) below and more than 8nT above the mean reading have been excluded from the dot density plot (Fig. 2a).The image has been enhanced by interpolation.

The multiple high peaks and low troughs of the X-Y plot, limited to a data range of 10.2nT, illustrates the high incidence of magnetic ferrous material (Fig. 2b).

The survey, therefore, revealed no positive indication of archaeological deposits, but was so marred by ferrous material that it cannot be regarded as excluding their possible existence (Fig. 4).

Area B

Ten grids were laid out, of which two full and two partial grids were necessarily excluded because of the tarmac surface over a car park (main report Fig. 3). As a result there was a complete break in the survey of around 30m.

The four whole grids to the east of the area were so affected by magnetic ferrous material that no reliable information about the presence of archaeological deposits could be ascertained. The pronounced peaks and troughs visible in the X-Y plot (Fig. 3b) illustrate its presence.

Four partial grids to the west of the area were badly affected to the north by ferrous material, but a more coherent image was visible to the south.

Conclusion

The depth of soil overburden and, in particular, the extent of magnetic ferrous material over both areas, severely limits the effectiveness of the geophysical survey.

Figure 2a

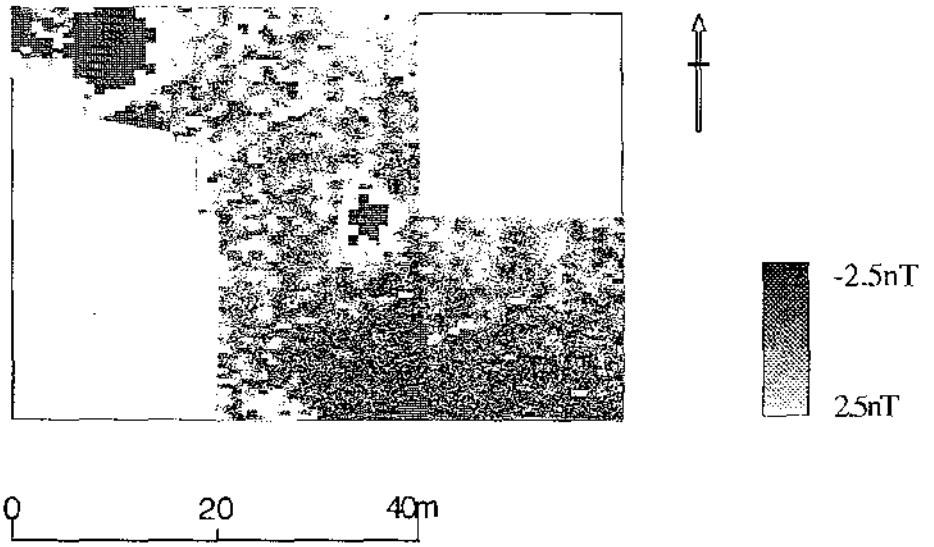

Figure 2b

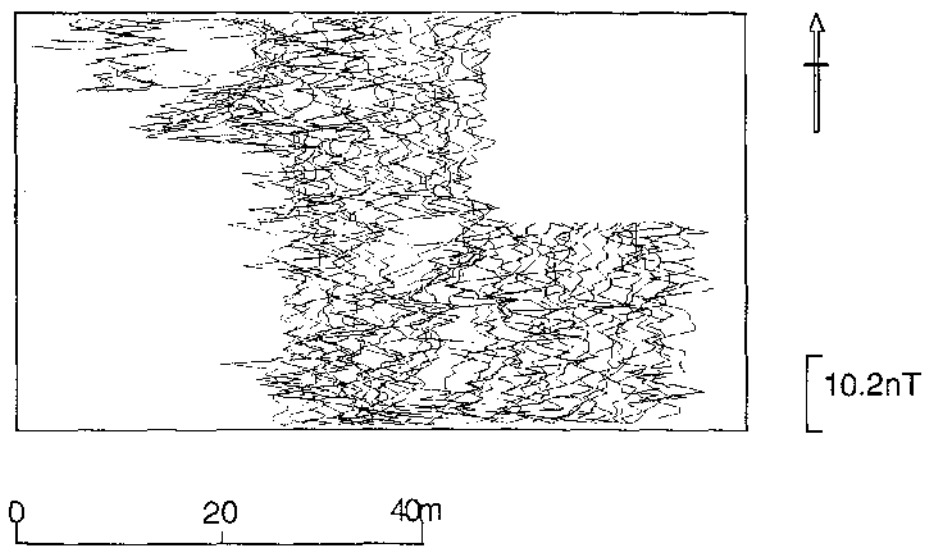

Figure 3a

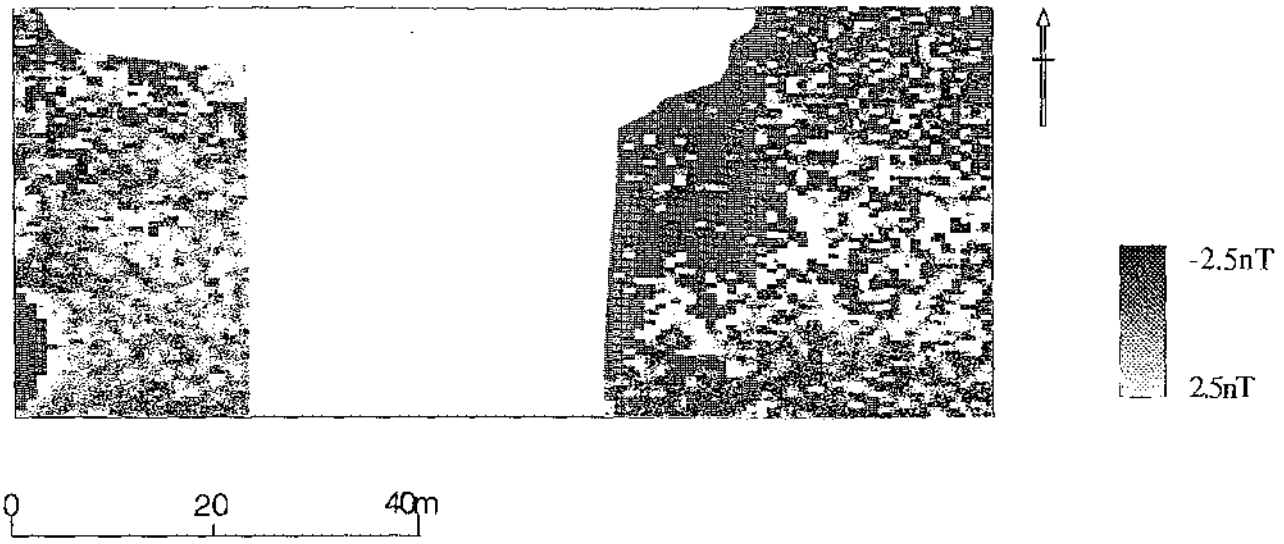

Figure 3b

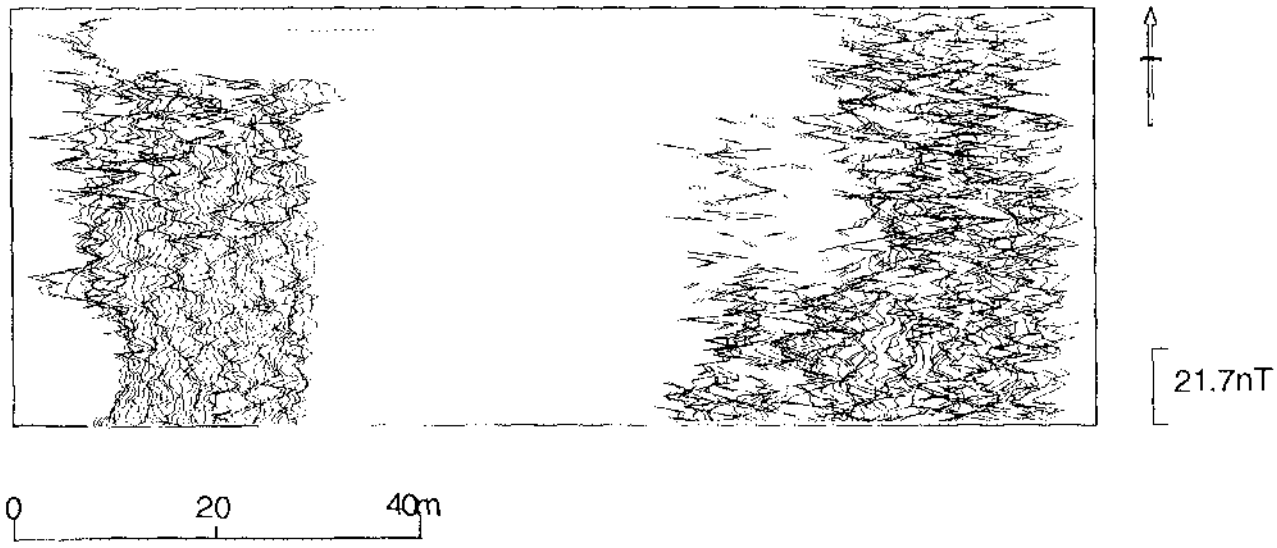

Figure 4

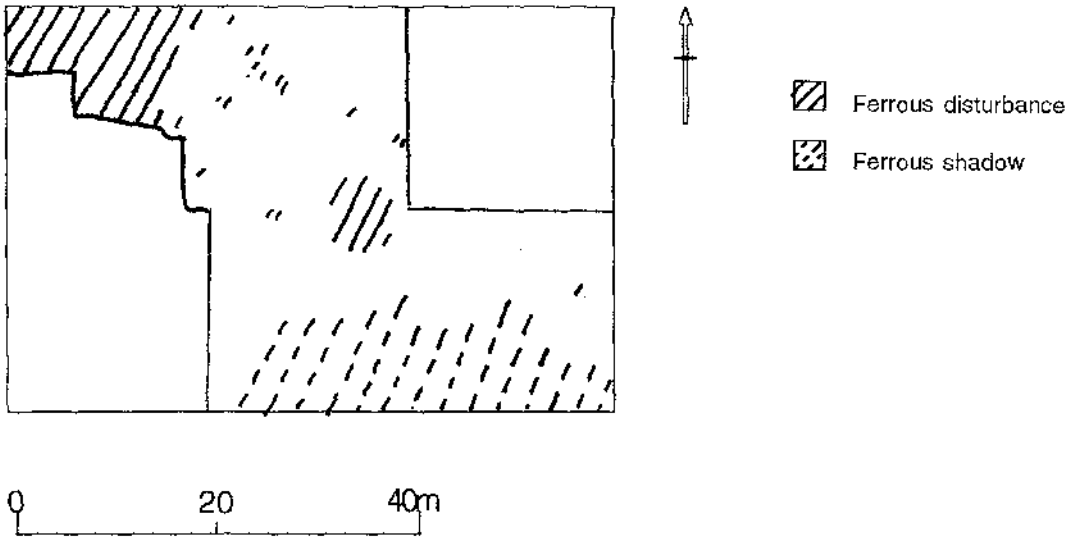

Figure 5